# MARINE RECREATIONAL INFORMATION PROGRAM

**FY  Project Plan**

**Puerto Rico For-Hire Data Collection**

**Created on**

# 1. Overview

### 1.1. Background

Puerto Rico has participated in the MRFSS program since 2000. Surveys of the charter boat catch and effort are currently conducted using the original MRFSS methodology of catch data collected during angler intercept interviews combined with a random digit dial (RDD) telephone survey of coastal households for effort. This data collection methodology has known deficiencies of significant magnitude (NRC 2006, Ditton et al. 2001). The RDD survey of coastal households does not interview non-resident participants for their effort in for-hire fisheries, and correction factors based on the proportion of residents to non-residents encountered in angler intercepts are used to account for the non-resident effort. In the for-hire mode, a significant portion of fishing effort is from non-resident anglers, which results in large expansions of raw effort estimates and very low precision. In Puerto Rico, 80% of for-hire angler intercepts are from non-resident anglers on average, with a range of 67% to 91% annually for the seven years the survey has been conducted.

HMS species comprise the main focus of the charter fishery in Puerto Rico. A few short miles off of San Juan is the famous “marlin alley” where the insular shelf ends and the marlin’s habitat of blue water begins. Blue marlin, white marlin, sailfish, yellowfin tuna and others are the common HMS targeted by the charter fisheries. In spite of the importance of these species to the charter industry and of the efforts by federal and state agencies to manage the populations, the current MRFSS methodology provides highly questionable estimates of catch. For example, the ICCAT harvest quota for blue marlin + white marlin combined for the entire U.S. is 250 individuals. For the year 2000, MRFSS estimates that in Puerto Rico the charter industry harvested 126 blue marlin, with a PSE of 99.9. In 2004, the harvest estimate is 10, with a PSE of 99.9. According to MRFSS, the private/rental mode harvested 2,594 blue marlin in 2005, with a PSE of 44.6. Clearly, we need to improve the precision of estimates for HMS in both modes, to the point where they can be reported with confidence. Overall, PSE’s for for-hire harvest estimates (in numbers of fish) for marlin, yellowfin and bluefin tuna, sailfish and swordfish are no less than 56%, and most are in the 80 to 100 percent range. Year to year estimates of harvest are highly variable, with many years estimating zero fish landed.

In this proposed MRIP for-hire data collection method, the universe of for-hire vessels will be expanded to include dive vessels or other for-hire vessels, which capture queen conch, spiny lobsters or may engage in spearfishing or possibly whelk (West Indian Top Shell) harvest. In the current MRFSS survey in Puerto Rico, catch and effort of invertebrate species are specifically excluded, although Fishery Management Plans are in place (CFMC/NMFS 2005). In addition to missing invertebrate catches, there is no accountability of the fish catch by the diving sector, since no data collection system currently or historically exists. A total of 78 dive operations were identified in 1998-1999 in Puerto Rico as being in business between 2 and 30 years. Hand harvesting of lobster as well as spearfishing was allowed by 37% of the dive operators (García-

Moliner et al. 2001). It was estimated that over 190,000 individual dives a year were carried out from for-hire dive operations. The most visited reefs around Puerto Rico include sites in the Islands of Desecheo, Mona, Culebra, the keys of La Cordillera on the East coast (with the reefs of Palominos and Palominitos receiving more than 25% of the dive visits overall), reefs in La Parguera on the South coast, and other reefs among over 58 other sites identified by the SCUBA charters.

There are a variety of potential sample frames available, or potentially available in the near future. Under Puerto Rico Fisheries Law 278, charter vessels are required to have a state permit to operate. Enforcement of this permit requirement has been less than perfect to date, though DNER is taking pro-active measures to achieve 100% compliance. Charter captains are being contacted by DNER to remind them of this requirement, and with the recent signing of the Joint Enforcement Agreement with NOAA/OLE, DNER rangers will be visiting the charter vessel docks with greater frequency to enforce this and other related fishing regulations. Clear lines of communication exist between the data collection office and enforcement, since the Director of Marine Resources is also the main point of contact for the PR Joint Enforcement Program.

Charter vessels require Coast Guard registration and Public Service Commission authorization. In addition, Puerto Rico DNER maintains an up-to-date database of all known operating charter vessels for the current MRFSS project. Currently, the database consists of 37 charter boat operations, with approximately 1/3 in the San Juan metropolitan area, which make an average of approximately 20,000 angler trips per year. The for-hire industry in Puerto Rico does not include any head-boats, and it must be recognized that not all dive vessels are included in the DNER database. Obtaining an up-to-date inventory of for-hire vessels in Puerto Rico would be an additional task of this project. Of the 37 charter boat operations on the current DNER database, 18 are known to have access to internet. Another available license frame is the federal HMS for-hire permit.

A pilot program is envisioned that will introduce a mandatory electronic logbook reporting system for for-hire recreational charter vessels that harvest finfish, HMS species, and marine invertebrates in Puerto Rico. A paper logbook would be available to those without computer or internet access. Benefits of the improved and expanded system should include substantial improvements in the quality and precision of the data collected, minimal time demands on for-hire captains and increased public confidence in the data collection program as well as among resource managers. Improved timeliness in reporting of HMS data (especially marlin harvests) is an added benefit.

### 1.2. Project Description

A pilot electronic logbook reporting program will be developed and conducted in Puerto Rico, using as a model the electronic trip ticket systems in place in other states. Data collection would consist of a census design (mandatory reporting, as required by the 1998 Fisheries Law) with validation and would be designed to collect catch and effort data on all target species with

particular attention to HMS species and including invertebrate (queen conch, whelk and lobster) fisheries. Catch and effort data to be collected through this system will be compatible with that collected through the currently operating MRFSS survey, with the exception of inclusion of data on recreationally captured invertebrate species (queen conch, West Indian Top Shells, and spiny lobster), which are excluded from MRFSS.

RFP for private contractor will include:
•Design and implementation of an electronic reporting system in Puerto Rico, with built-in electronic signature, based on the electronic trip ticket program in use in other states.

• Updating of the inventory of dive vessels which allow harvest of fish or invertebrates by clients.

•Collection of for-hire catch and effort data via an electronic reporting system, with bi-weekly reporting frequency. Charter captains would have the option of up-to daily data reporting, if they desire; bi-weekly would be the upper time limit.

• Charter captains could report fish (and invertebrate) sizes voluntarily in the system. The sizes reported would be compared to dock-side recorded sizes.

• The electronic system would allow for printing a tracking report, which the charter captains could take on the vessel to manually note catch and effort for later reporting through the electronic system.

•Collection of for-hire catch and effort data via non-electronic reporting option (telephone or paper forms) to be used by for-hire operations that do not have easy access to internet. DNER personnel would be responsible for data entry from telephone or paper forms. Paper forms would be faxed to DNER.

•Contractor would be responsible for tracking non-compliance and reporting to proper agency.

•PR DNER personnel will aid in validation of self-reported data by random visits to 10% of the charter vessels each week to note whether they are out fishing, out for other (or unknown) reason, or in the slip. Data from the observed activity patterns will be compared with the reported activity and the degree of concordance or discrepancies will be noted. Discrepancies will be discussed with the appropriate charter captain to determine how to interpret the event. Failure to comply with the data reporting requirements of the program could result in fines and/or revocation of the DNER charter boat permit. MRFSS dockside surveys of for-hire anglers will continue to be conducted, and catch data from these interviews will be used to validate self-reported catch data from logbooks. Nevertheless, it must be noted that validation of invertebrate catch will be difficult since MRFSS only covers finfish. If the pilot is successful, dockside validation of invertebrate catch will be added in the future. Diveboats identified that allow spearfishing will be added to the MRFSS dockside surveys next year.

At the end of the one year pilot project, outputs from the electronic for-hire reporting system in Puerto Rico will be handed over to the Puerto Rico DNER. Data comparison tables and documentation of the results of the pilot project will be reviewed by the For-Hire Workgroup. Final products delivered to the Operations Team will include a final report with a comparison of MRFSS RDD estimates with the electronic logbook method and manual logbook method, discussion of the degree of success of the pilot program, suggestions for improvement and recommendations regarding continued use. A survey of participants will also be conducted at the end of the pilot, to obtain their feedback on the electronic logbook system. If evaluation of the system is considered favorable, as indicated by widespread acceptance and compliance by charter captains, with accurate reporting (based on validation), and acceptable response rates, then it will be recommended as the standard method for collection of for-hire data. For hire operators who were using the telephone or manual log book reporting method during the pilot project would be encouraged to adopt electronic reporting.

### 1.3. Objectives

### 1.4. References

CFMC/NMFS (2005) Comprehensive Amendment to the Fishery Management Plans (FMPs) of the U.S. Caribbean to Address Required Provisions of the Magnuson-Stevens Fishery Conservation and Management Act: Amendment 2 to the FMP for the Spiny Lobster Fishery of PR and the USVI; Amendment 1 to FMP for the Queen Conch Resources of PR and the USVI; Amendment 3 to the FMP for the Reef Fish Fishery of PR and the USVI; Amendment 2 to the FMP for the Corals and Reef Associated Invertebrates of PR and the USVI, Including Supplemental Environmental Impact Statement, Regulatory Impact Review, and Regulatory Flexibility Act Analysis. 624 pp. Ditton, R., A. Loftus, and J. Volstad. 2001. ACCSP For-Hire Review. Report to the Atlantic Coastal Cooperative Statistics Program, Washington, D.C. 143 pp. García-Moliner, G., W. R. Keithly, Jr. and I.N. Oliveras (2001) Recreational SCUBA Diving Activity in the US Caribbean. Proceedings of the 52nd Gulf and Caribbean Fisheries Institute (1999) 52, 363-371. García-Moliner, G., Ivan Mateo, Sheri Maidment-Caseau, William J. Tobias. and Barbara Kojis (2002) Recreational Chartered Fishing Activity in the US Caribbean. Proceedings of the 53rd Gulf and Caribbean Fisheries Institute (2000) 53, 307-317. National Research Council (NRC), 2006. Review of Recreational Fisheries Survey Methods. The National Academies Press. Washington, DC. 187pp

# 2. Methodology

## 2.1. Methodology

## 2.2. Regions

## 2.3. Geographic Coverage

## 2.4. Temporal Coverage

## 2.5. Frequency

## 2.6. Unit of Analysis

## 2.7. Collection Mode

# 3. Communications Plan

### 3.1. Internal

Project status reports will be provided to the Operations Team on a monthly basis. Number of vessels, logbook reports collected, etc.

### 3.2. External

# 4. Assumptions and Constraints

### 4.1. New Data

### 4.2. Track Costs

### 4.3. Funding Vehicle

Gulf FIN Grant

### 4.4. Data Resources

The main assumptions are that the trip ticket software in use in other states can be modified for the purposes of this pilot study, and that the majority of the existing charter operations will be willing and able to enter catch and effort data through this medium.

An additional assumption is that random visits to charter boat docks by DNER personnel (biologists and enforcement), along with other comparisons and cross-checking will serve to validate the otherwise self-reported data, and thus ensure improved precision of the data collected.

### 4.5. Other Resources

### 4.6. Regulations

### 4.7. Other

# 5. Risk

## 5.1. Project Risk

Table 1: Project Risk

| Risk Description | Risk Impact | Risk Probability | Risk Mitigation Approach |
|---|---|---|---|

# 6. Final Deliverables

## 6.1. Additional Reports

## 6.2. New Data Sets

## 6.3. New Systems

# 7. Project Leadership

### 7.1. Project Leader and Members

Table 2: Project Members

| Project Role | Name | Organization | Title |
|---|---|---|---|

# 8. Project Estimates

### 8.1. Project Schedule

Table 3: Project Schedule - Major Tasks and Milestones

| # | Schedule Description | Planned Start | Planned Finish | Prerequisites | Milestones |
|---|---|---|---|---|---|

### 8.2. Cost Estimates

Table 4: Cost Estimates

| Project Need | Cost Description | Date Needed | Estimated Cost |
|---|---|---|---|
| TOTAL | | | $0.00 |